

Consumer Electronic Products Collection Recycling and Reuse in Washington State

Policy Issues to Address

Note: The following represents an effort to describe and sort through the policy issues related to financing. These issues are rooted in the legislation, ESHB 2488, and considered in light of the research done and subcommittee discussions to date. I am providing it to the Subcommittee to help stimulate the policy discussions that need to happen so our efforts will continue to move forward productively. These issues seem to be the key points that must be sorted out, in that they establish the foundation upon which electronic products reuse and recycling programs are created.

—Jay Shepard, Project Manager

Issue 1: Individual Responsibility or Collective Responsibility?

This issue has been the major stumbling block in national discussions, stalling progress toward establishing a national recycling solution for electronic products. The issue boils down to these two questions:

- Should individual manufacturers be held accountable for their own products and related impacts? Or,
- Can collecting and recycling end of life electronics be accomplished through a collective responsibility model that places a blanket fee on all products, managed by a third party, which pays for all associated costs?

Individual Responsibility

Individual responsibility requires that producers independently create and finance their own end-of-life programs for specific brand name products. Generally, a plan is written that describes the programs. If the program is legally mandated, the plan is generally submitted to a government agency for review and approval. The plan must assure that the manufacturer establishes and meets recovery targets. Ideally, costs of the program are rolled into overall product costs. With this approach, the consumer does not see a fee, either at the point of purchase or at end of life. They only see how they can turn in their end of life product to be recycled. Some companies in Europe have demanded individual responsibilityⁱ.

Benefits

Market driven and competitive – Programs that are managed most efficiently will reduce overall product cost to the consumer, providing a cost competitiveness factor in the marketplace.

Encourages design changes that improve the end of life value and recycle-ability of products. Knowing that products will be returned to them for end of life management will likely cause manufacturers to assure their products are designed to be efficiently handled and to minimize hazardous material content. European studies have shown that individual responsibility programs have created stronger feedback loops to product designers.

Creates direct accountability to the source – Individual responsibility requires products to be returned to the manufacturer through programs that are convenient for the consumer.

Flexibility - The manufacturers can establish their own material collection and processing systems, contract the services out to another business or businesses or rely on existing infrastructure and services. This system also allows for the opportunity to utilize a reverse vending or reverse distribution model, which uses the product supply infrastructure to back haul end of life products in trucks that would normally run empty on their return runs.

Potentially reduces the number to steps in handling the product at end of life. If a manufacturer designs a collection and processing system that works efficiently, there should be a minimum number of steps between the consumer and the end of the recycling process. This should prove to be more cost effective and energy efficient. This will have the joint benefit of providing the least cost option and reduced energy consumption, an environmental benefit.

Easy for consumers to use - If designed in a way that the associated costs are incorporated into the cost of the product, consumers will be more likely to participate by sending their end of life equipment to the recycling option offered. If the cost is identified as a separate fee as part of the requirements for purchasing, consumers are likely to look for products that don't state a fee yet provide the same service.

Drawbacks

Confusion - Consumer information may not be clear, leading to confusion as to what to do with end of life products.

Minimal accountability to a regulatory authority – Because these types of programs are operated privately and competitively, businesses are not likely to share information about quantities of product returned or material actually recycled into new products, declaring that information proprietary. Performance against a target or goal could be seen as suspect.

Difficult to measure effectiveness – Without knowing the details of products returned, performance can not be measured. One way of addressing this is through waste composition studies or monitoring incoming wastes at disposal facilities to determine if electronic products are being discarded. However, that would still not demonstrate the recovery rate of the products as there would be no number to evaluate that which is disposed, against. ?

Externalized costs - In some cases, the manufacturer may only be responsible for their end of life products only after the product arrives at their receiving dock, requiring others to pay the cost of return. This is a major downside in that consumers are not as likely to participate in a program where they have to pay for shipping and handling cost to transport their product back to the manufacturer.

Potentially reduces the number of in state jobs associated with recycling – While one of this model's best attributes is that it encourages efficiency and competition, it could very well cut certain collectors and transporters out of the process in order to reduce costs. If that is the case then the work associated with those activities would be eliminated.

Collective Responsibility

Collectively sharing end-of-life responsibility with other industry counterparts, participating manufacturers delegate responsibility to others. Funding for this model generally uses a consumer fee model to pay for collection, transport and processing costs associated with the manufacturer's products. The funds are managed by a third party, whether a governmental entity or a private, industry-funded non-profit. This third party is responsible for assuring that end-of-life management of the members' products are taken care of responsibly, providing subsidies to collectors, transporters and processors to handle returned products. This model relies on retail business to collect the consumer fee at the point of sale.

Benefits

Minimizes involvement - For the manufacturers, this eliminates, or significantly reduces, their active involvement in end of life management of their products. This in turn reduces the cost of their products at retail. Fees are charged and collected as a separate cost at point of purchase.

Creates a pool of funds that is used to pay for collection, transportation and processing of products – Costs associated with handling end of life products will be covered. Businesses involved in these activities will be assured that their costs will be covered.

Built in performance measurement – In order to receive reimbursement of costs, businesses handling products at end of life are required to report quantities of products collected and maintain documentation for audits. These reports are the basis for cost reimbursement. These data would also provide a performance measure of the various alternatives employed for collection, transportation and processing covered products.

Flexible – Provides an opportunity for many parties to be involved in the collection, transportation and processing of products. This in turn stimulates creativity in approach and efficiency in system design in order to realize the maximum profit available.

Drawbacks

Out sources (externalizes) costs and responsibility – By creating a consumer fee and a third party organization, manufacturers have no responsibility for end of life management of their products. While this approach reduces direct cost for the manufacturer, all other parties become involved and responsible for product end of life management:

- Retailers would be required to collect fees.
- Consumers would be required to pay fees at point of purchase, as they dispose of their old products and replace with new.
- Local governments, responsible for solid waste management in the state, will create new systems to manage these and future new products that are introduced, which will require additional revenue to operate.

May be most costly to the consumer - This model does not encourage the most efficient collection, transportation and processing systems as there is no incentive to reduce overall systems costs. Retailers will need to be compensated for the service of fee collection. Costs and profits for each entity along the way, from collection to final recycling, will need to be paid. While each of these entities may find efficiencies within their individual company to improve their own company profitability, there is no incentive to improve efficiency within the overall system that will reduce costs to the consumer without regulatory controls, whether by

government or the third-party organization. These controls would add more costs to the system.

No incentive for improving product design for environmental performance at end of life – With no end of life involvement with their products, manufacturers will be less likely to design their products for ease of recycling or to minimize hazardous substance content.

Reliance on a third party manager adds cost – Creating a third party manager to oversee the accounts receivable and payable process, certify material handlers, and create and use an audit system will be costly. Adding bureaucracy, private or public, will only raise the cost of the program to the citizens of the state. This is not a least cost alternative.

Financial Responsibility

Boiled down further, the issue of responsibility comes down to “who pays?” In reality, in all approaches, the consumer ultimately pays for disposal of end of life products, regardless of what the product is.

An associated issue arises in relation to end of life management costs; which consumer pays? Currently, a standard practice in the life of electronics is that they are often “handed down” to another person for use – whether a son or daughter, or donated. The recipient of the used equipment is generally of lower income and is the least able to pay for appropriate end of life management. Products are often abandoned, left with thrift or charity organizations or dumped illegally. This places an undue financial burden on society and its economy as a whole.

Issue 2: Government Mandated Participation or Voluntary Programs

The efforts to collect, transport and process electronic products in place in Washington today are voluntary. Based on reported recycling of electronics under the agency’s recycling survey, these programs do not effectively capture a significant quantity of end of life electronic products compared to that which is available. The International Association of Electronics Recyclers reported that most electronic product presently collected for recycling are received from business, industry and governments, which are not the primary focus of ESHB 2488. The quantities of consumer electronic products collected have primarily been collected at short term collection events sponsored by partnerships between retailers, local governments and manufacturers.

While by themselves, the quantities collected at these events look impressive, on the greater scale of things, these quantities are small in comparison to that which is available. Some manufacturers have set up voluntary take back programs that charge end-of-life fees to consumers for each unit returned. Some accept the product when delivered to them at no charge. The consumer packages and pays for shipping. It appears that the participation in these programs has been relatively low. These voluntary programs are financed for the most part, by the consumer through an end of life fee..

In the final analysis, it appears that voluntary collection programs, like most other voluntary initiatives in society, only draw the active participation of a few of the many potential participants.

Issue 3: Historic, Orphan, Migrated and Abandoned Products

Historic and orphan products are those products that can not be identified as being ascribed to any particular manufacturer and are in possession of consumers prior to the adoption of any legislatively established program. This is another major problem that has held back progress in national efforts to establish electronic product recovery programs. The question is who pays for the associated costs for these products?

Presently in 2005, there are an estimated 2,738,947 computers and monitors, and 6,350,331 televisions in use in Washington households. There will be approximately 4 million new computers with their associated monitors and peripherals sold into the state from 2006 to 2010. In that same period, 3.2 million new televisions will be purchased. These numbers will grow each year beyond 2010. The number of products to be managed at end of life in the future far outnumbers the quantity historic products in existence prior to 2005.

This issue should not be a barrier to establishing an electronic product recycling program for the state. These products will need to be managed.

Issue 4: Scope of Program

There are several aspects to consider when establishing the scope of the program, such as:

- Should the program include reuse?
- What products really should be included?
- Who should be able to use the services?

Reuse

Reuse of products has generally been a private sector enterprise. With products other than electronic, thrift stores and charitable organizations have flourished. Used but usable items available in second-hand stores have value and a market demand.

Certain items loss value quickly, however, and don't have a strong market demand. When these products are donated, or even "traded in" at electronics retailers they are most often considered waste and are sent out for recycling. The intrinsic value to the products may have a lesser value than that of the cost of handling and processing, so a fee is charged for the service. For the thrift industry, these fees constitute a significant portion of their operating budget.

Reuse is dependent upon the value of the usefulness of a product. If the product remains useful, the value of the product is more than the intrinsic value of the materials of which it is made. When a product is no longer useful, when it can no longer perform the function for which it was designed, that functional value is reduced to zero. The product's remaining value is in the materials that can be recovered and recycled. When the value of the material is less than the cost of handling and processing, the product becomes a liability.

Products

The legislature identified covered electronic products as televisions, computers and computer monitors sold in the state for personal use. This definition is very narrow in scope, avoiding the inclusion of those same electronic products from commercial, small business, governments and schools. The quantity of electronic products from these sources may well be equal to or greater than the same products in use by consumers for private use.

In addition, there are large quantities of other electronic products available to consumers, many with short life cycles. Cellular telephones, audio equipment, video gaming equipment and home convenience appliances are but a few of them. Add to that the large quantity of office equipment used in small business, government, and schools other than computers, such as fax machines, copiers, printers, calculators, and telephones, the quantities become significant.

The quantity of electronics being recycled and the quantity of products covered by ESHB 2488 is small compared to the quantity available for recycling.

Scope of Service

Due to the fact that the definition of covered electronic products in the law only focuses on consumer level televisions, computers and monitors, one could assume that any collection, transportation and processing system established for product recycling should only focus on the individual citizen's personal use products. However the bill did ask Ecology to evaluate options for small business, governments, schools and charities.

The objective for these sectors should be the same as for consumers; "to find the least cost alternative for the citizens of the state that results in the maximum amount of end of life product being recovered."

Issue 5: Recovery, Reuse, and Recycling Goals, Standards, Requirements

The adage "if you don't know where you are going, any road will get you there" applies here. Determining where to set a goal or performance standard becomes the policy issue. What target is reasonable?

Currently, there are no mandatory recycling goals or standards for any specific material type in Washington State. There are no mandatory state level recycling programs. The Revised Code of Washington requires that local solid waste planning jurisdictions assure that adequate recycling services are available for residents to access. What that access is, is determined by the planning jurisdiction. Local jurisdictions can establish mandatory participation if they choose. Mandatory participation is not required by state law.

In 1989 the legislature established a goal of recycling 50% of solid wastes generated in the state by 1994. The goal was not reached. Reasons for not reaching the goals are many, such as:

- Loss of funding to support public outreach and education programs that inform residents about recycling opportunities;

- The booming economy of the 1990s created more consumption of products while the recycling industry did not keep pace with the supply of recyclable materials available;
- The unprecedented population growth in the state brought new residents who were unfamiliar with recycling opportunities;
- Initiative 601 caused the elimination of programs that supported recycling, such as the tire recycling account and the solid waste management account.

The date to meet the goal was recently changed to 2007. However, it remains a goal without consequences should it not be met.

Goals, targets or standards are only effective if there is a system established to monitor progress and suggest process changes to achieve them. In addition, consequences need to be established and enforced. If such a system is not established, or worse, established and then closed down, the likelihood of achieving the goal, target or standard are limited.

Consequences should provide an incentive to comply rather than a penalty for non-compliance. Penalties are only effective incentives when the cost is high enough to cause the desired behavior should there be resistance.

Rather than taking a traditional penalty assessment approach, other alternatives should be considered.

Issue 6: What is considered recycling?

ESHB 2488 directed Ecology to recommend an electronic product collection, recycling, and reuse program for the state. According to Chapter 70.95 RCW Solid Waste Management -- Reduction And Recycling, "recycling" means transforming or remanufacturing waste materials into usable or marketable materials for use other than landfill disposal or incineration."

Clearly, by this definition, incineration or landfill disposal of end of life products does not constitute recycling. Recycling is "transforming or remanufacturing waste materials into usable or marketable materials..." Since ESHB 2488 is focused on electronic collection, recycling and reuse, the use of materials contained in electronic products should only be recovered as a material as usable and marketable material. Those materials should not be used as a fuel in a combustion process.

This does not preclude the application of heat to transform recovered plastics into pellets or scrap metal into ingots or sheets for commercial application, for example. However, the heat source can not be from combustion of the recovered material itself to be considered recycling.

ⁱ Clean Production Action, Extended Producer Responsibility, <http://www.cleanproduction.org/AABase/default.htm> EPR Home.
INDUSTRY REACTIONS TO Extended Producer Responsibility (EPR)

" We see it as an opportunity in the U.S. where we are getting into the recycling business. We're presently considering the European market situation. And there will be other major changes. Future transportation may not involve owning a car. Instead, you may own the right to transportation. We will make vehicles and either lease or loan them to you. We'll end up owning a vehicle at the end-of-life and have to dispose of it. We will treat it as a technical nutrient, making it into a car or

truck again. We're getting ourselves ready for the day when this is truly cradle-to-cradle. We're not fighting it, we're embracing it."

--Statement by Bill Ford, CEO of Ford Motor Company, 1999—

Many companies, particularly multi-national affiliates who reside in Europe, are supporting EPR as they see it as an opportunity to be more competitive and economically efficient with the resources they use in products. Major electronic manufacturers in Europe, such as Apple Europe, Hewlett Packard, Sony Europe, and Intel and environmental NGOs released joint statements of support for the Waste from Electrical and Electronic Equipment Directive (WEEE).

WEEE mandates that individual electronic manufacturers take back their products at the end-of-life as well as design out harmful materials and meet recycling/reuse targets. Manufacturers in Europe not only supported the EPR legislation, but also advocated for mandated individual responsibility, which means corporations have to take back their products independently. Individual responsibility is critical to helping manufacturers redesign products as the alternative system whereby companies fund a third party to collectively take back products does not reward companies who improve the environmental design of their products.

"Individual responsibility encourages competition in the environmental performance and rewards improvements. Collective responsibility makes environmental improvements pointless and rewards the irresponsible and the lazy."--Electrolux, the world's largest producer of kitchen appliances--

**Joint Press Statement
of Industry, Consumer and Environmental Organisations
on Producer Responsibility in the
Waste Electrical and Electronic Equipment (WEEE) Directive**

This Statement refers to the responsibility of financing the management of WEEE for products sold in the future, and not the organisation of recycling systems. As regards all products sold in the past (historical waste), both the Council and the European Parliament have proposed that producers shall share the cost of recycling.

The European Parliament has concluded its First Reading and the Council has adopted its Common Position on the proposed WEEE directive. The Second Reading of the European Parliament will be completed by April 2002.

One of the objectives of introducing producer responsibility is to create incentives for producers to improve the design of their products with a view to enhancing their environmental performance. We support this ambition.

The European Parliament has made a constructive proposal that would secure this objective by establishing a strong producer responsibility, whereas the Council's Common Position fails to create the necessary incentives.

In addition, through its Article 7.4 the Council has proposed that existing producers should always finance the recycling of products from producers that disappear, or where the producer cannot be identified. Our opinion is that this stands on weak legal grounds. It would also become a dangerous incentive for free-riding, meaning short-sighted actors (producer = importer and/or manufacturer) would be able to place products on the market without addressing how these products should be recycled in the future.

Instead, the Parliament has proposed that each producer would be required to provide appropriate guarantees for the management of WEEE. This establishes the necessary legal instrument for proper enforcement and addresses the issue of free-riders. This is essential to avoid placing unjustified burdens on tax-payers and consumers.

For the second reading, we urge the Council, the European Parliament and the Commission to:

⇒ **Support the proposal of the European Parliament for financing on an individual basis and the need to provide appropriate guarantees for the financing of the management of WEEE (and the section of Article 3 defining individual financing)**

⇒ **Reject the proposal of the Council regarding free-riders (Article 7.4 of Council Common Position)**

AeA (American Electronics Association) Europe
Association of Netherlands ICT Sector (ICT Milieu)
Bellona Europa – Environmental NGO
BEUC – The European Consumers' Organisation
Confederation of Swedish Enterprise
European Environmental Bureau
Japan Business Council in Europe
SRI – The Swedish Recycling Industries' Association
Swiss Association of Information, Communication and Organisation Technology
VI – Association of Swedish Engineering Industries
WWF-UK (Part of the global environmental network)
Zentralverband Elektrotechnik- und Elektronikindustrie e.V. (ZVEI) –
The German Electrical And Electronic Manufacturers' Association

AB Electrolux
Agilent Technologies
Apple Europe
Fujitsu Siemens Computers GmbH
Hewlett-Packard
ICL plc
IKEA Service Center S.A
Intel Corporation
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